# 6. Quality, Safety and Health, and Environmental Compliance

All work performed with OST funding complies with applicable quality assurance, safety and health, and environmental compliance DOE Orders and other appropriate requirements. Individuals involved with the development of technologies for the OST program shall ensure that:

- Technology development work is performed in a manner that is safe for the workers and the public, and protects the environment, and
- The technologies resulting from OST program funding are deployed and implemented in a safe and environmentally satisfactory manner.

It is the responsibility of each site TPO, through whom focus area funding is received, to ensure that plans have been developed that address quality assurance, safety and health, and environmental compliance. It is the responsibility of the focus area program manager to ensure that these functions and/or plans have been addressed for the national program. The focus areas are responsible to ensure that all applicable environmental, health and safety requirements flow down to those actually executing the work scope and that the research and development activities adequately support the implementation of all applicable requirements.

All organizations performing OST work shall develop and maintain a quality assurance program, a safety and health plan, and an environmental compliance plan. Appropriate and applicable quality assurance, safety and health, and environmental compliance requirements should be incorporated by reference into contracts and subcontracts. The focus area program management plans will detail how the requirements for quality assurance, safety and health and environmental compliance will be implemented.

## Quality Assurance

The focus areas, working with the site TPOs, ensure that all work is performed consistent with a quality assurance program (QAP). All contractors and support organizations performing OST-funded work will follow a QAP that meets the requirements of DOE Order 414.A1, "Quality Assurance." If a focus area contractor or support organization operates within a facility with an established QAP that meets the intent of DOE Order 414.A1, reference to that QAP in the project management documents is sufficient.

## Safety and Health

It is the responsibility of the technology developer to develop a safe product. Focus areas work with the site technical program officers to ensure that all OST-funded work complies with the applicable requirements of Federal, state, and local laws and requirements; DOE requirements, and industry standards:

- DOE Order 231.1 Chg 2, "Environment, Safety and Health Reporting "
- DOE Order 440.1A, "Worker Protection Management for DOE Federal and Contractor Employees"
- DOE Notice 450.2, "Identifying, Implementing, and Complying with Environmental, Safety and Health Requirements"
- Other safety and health guidance established by OST, developed in cooperation with industrial organization standards.

The site technical program officers ensure that each technical task plan addresses environmental, safety and health considerations and requirements specific to that set of activities.

The guiding principles of integrated safety management (ISM) from DOE Policy 450.4 are fundamental policies that guide DOE and contractor actions, from developing safety directives to performing the work. The site technical program officers ensure that each technical task plan addresses environmental, safety and health considerations and requirements specific to that set of activities.

One of the ISM principles is the identification of safety standards and requirements, and integration means that all management systems and programs are designed to fit together to permit safe and efficient performance of work. In the conduct of remediation activities, ISM defines core safety management functions. Two of these functions are hazard identification and hazard control, which can be done by the developer of new technologies in cooperation with the user.

The relevance of ISM guidance to the OST program is that technologies deployed must be as safe, if not safer, than current baseline technologies. Successful deployment of new technologies depends on fitting the ISM mode, and strong worker involvement in hazards identification and hazard control. To accomplish this, technology developers should assess the safety of new technologies from the standpoint of worker occupational health and safety and provide documentation in the Innovative Technology Summary Report. In most cases, it is expected that improved safety and health aspects of new technologies compared to existing baselines will provide an additional justification for deployments.

Job hazards are addressed during work planning efforts at remediation sites. Normally, a job hazard analysis is performed for each work activity. For repetitive activities, a routine or generic job hazard analysis is required; this may be the most common use of information to contained in the ITSR. For particularly hazardous work environments such as encountered with toxic materials, vibration, noise, dust, or heat, a specific job hazard analysis may be required. In these instances, the technology developer may need to be involved in the work planning effort. [Note: The OST policy for safety is under a comprehensive review as of this printing and a new policy will be issued expanding on the above. It will be posted on the OST homepage at http://ost.em.doc.gov/IFT/OSThome.htm.]

## *Environmental Compliance*

The focus areas are required to review their funded programs and provide support to the sites, who work with regulators and stakeholders to identify areas of concern. Focus areas work with stakeholders to establish specific performance criteria for emerging or deployable technologies and systems that reflect regulatory or stakeholder concerns that would affect acceptance. Focus areas ensure compliance with applicable requirements of:

- DOE Order 5400.1 Chg 2, “Radiation Protection of the Public and the Environment.”
- DOE Order 451.1A, “National Environmental Policy Act Compliance Program.”

Site contractors and support organizations determine which environmental requirements are applicable and identify to the site technical program officers those actions required for environmental compliance. The site technical program officers includes this determination in an action plan that is included in management documentation for each technical program officer.